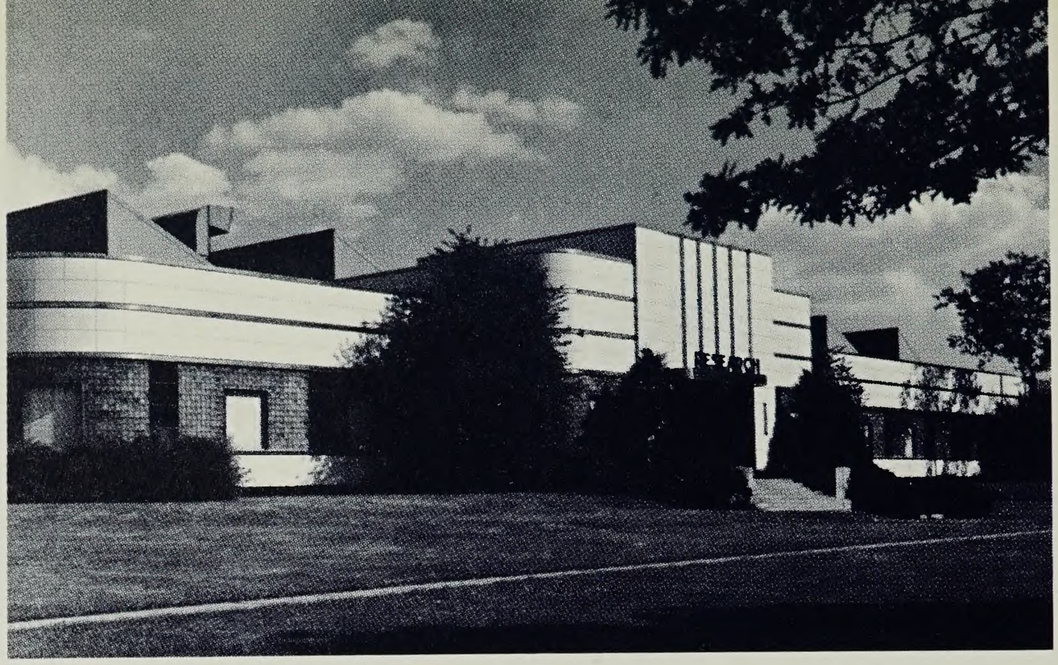
ARMCO

ALUMINIZED STEEL

Type 2



From more than a half-century of metallurgical research have come many Armco Special-Purpose Steels, each developed to better meet the requirements of new and improved products.

One of these, commercially introduced in 1939, was the first hot-dip aluminum-coated sheet steel ever produced. Called Armco ALUMINIZED STEEL Type 1, it offers significant economies and design advantages for applications requiring excellent resistance to a combination of heat and corrosion. It is ideal in products such as gas furnaces, auto and truck mufflers, appliances and industrial ovens.

Continuing research produced still another aluminum-coated steel. This grade provides outstanding resistance to atmospheric corrosion. It is called Armco ALUMINIZED STEEL Type 2.

This catalog refers only to Armco ALUMINIZED STEEL Type 2. Information on the properties and applications of Type 1 ALUMINIZED STEEL is available in a separate catalog that may be obtained from any Armco Sales Office listed on the back cover.

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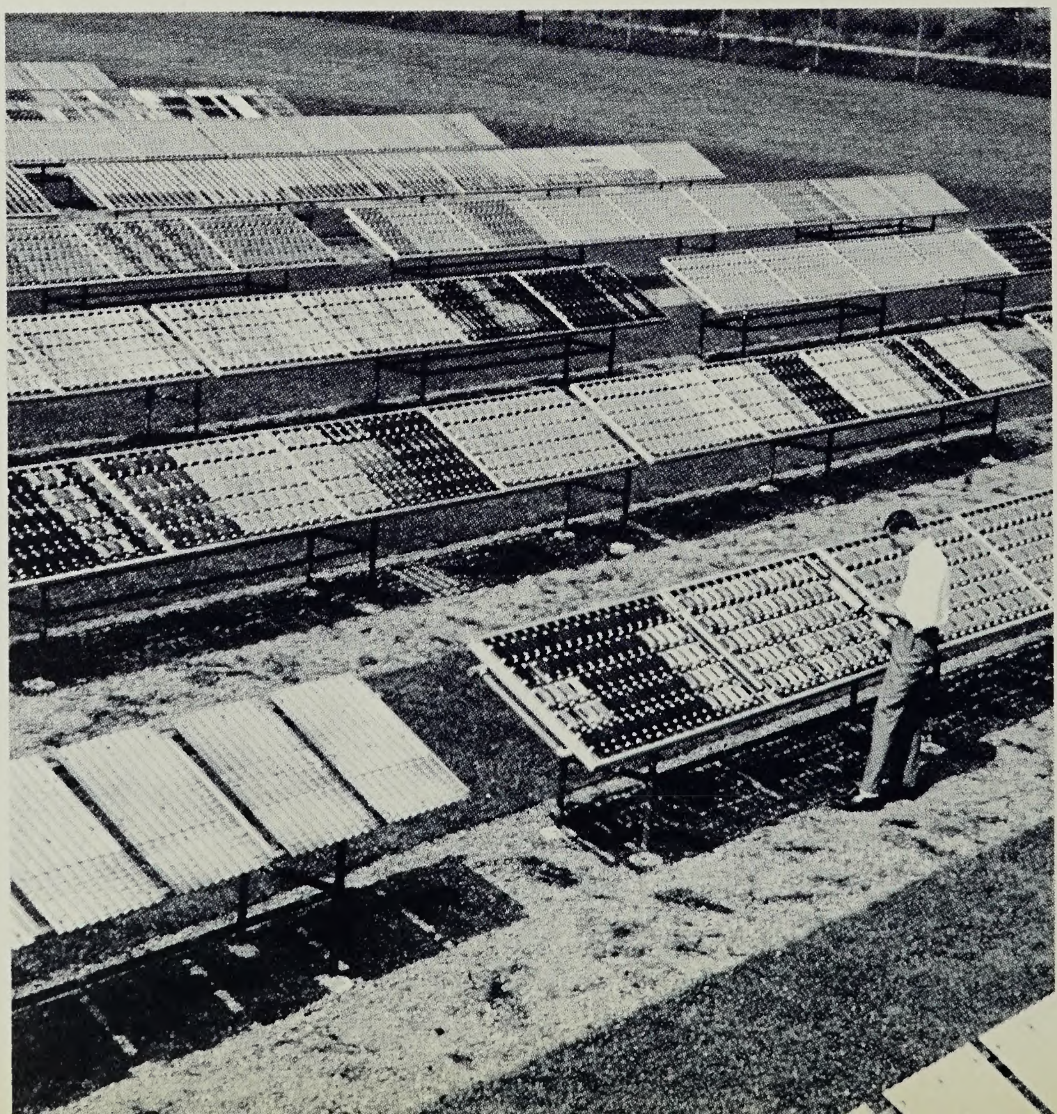

ARMCO

ALUMINIZED STEEL Type 2

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Armco ALUMINIZED STEEL Type 2

Sheet steel hot-dip coated with aluminum

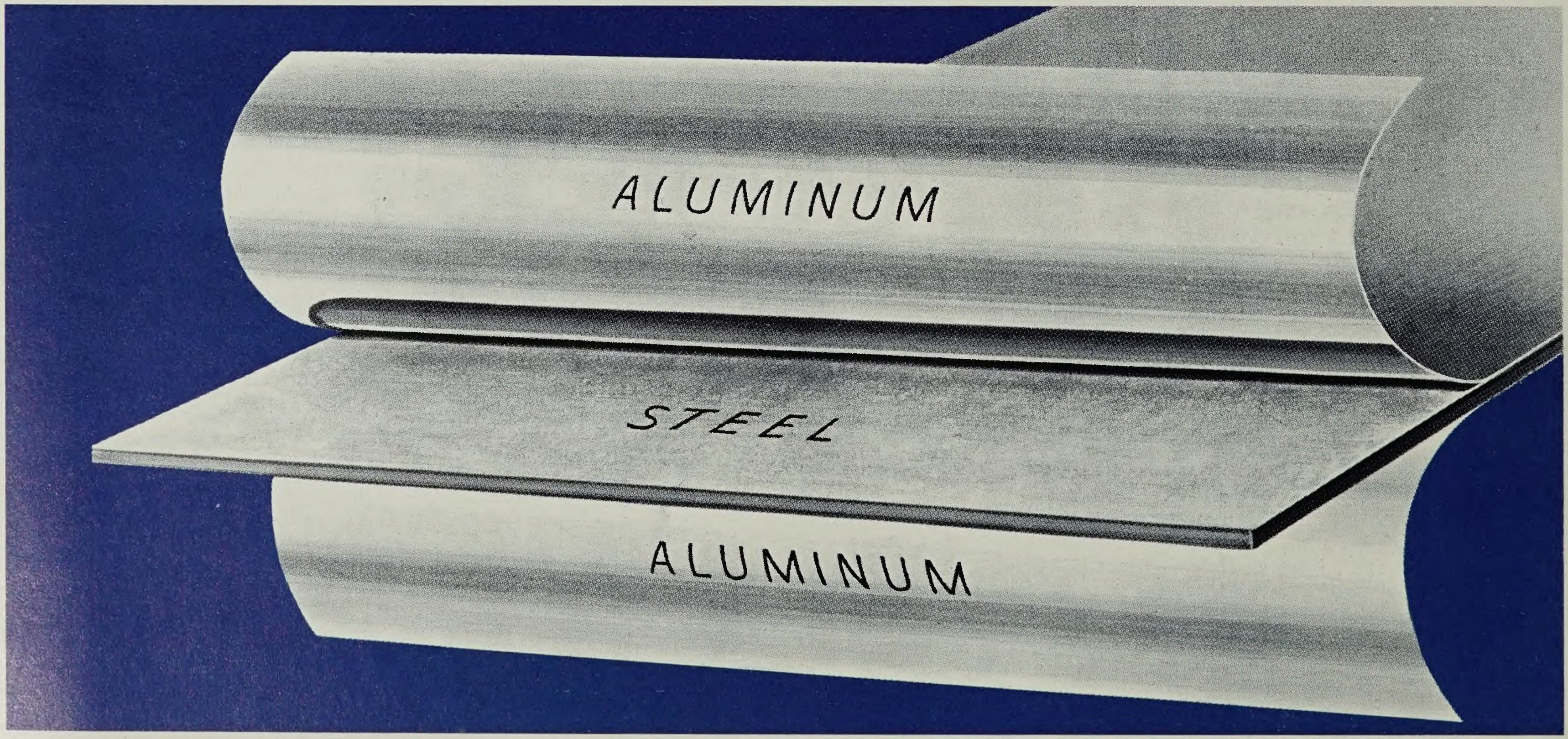
Armco Aluminized Steel Type 2 is sheet steel coated on both sides with aluminum by an Armco-developed, patented hot-dip process. The finished product possesses a unique combination of surface characteristics of aluminum and the physical and mechanical properties of steel.

Outstanding property of Aluminized Steel Type 2 is its excellent resistance to atmospheric corrosion. This, coupled with high strength, low cost and many other advantages, makes Type 2 Aluminized Steel an ideal metal for a wide range of outdoor applications.

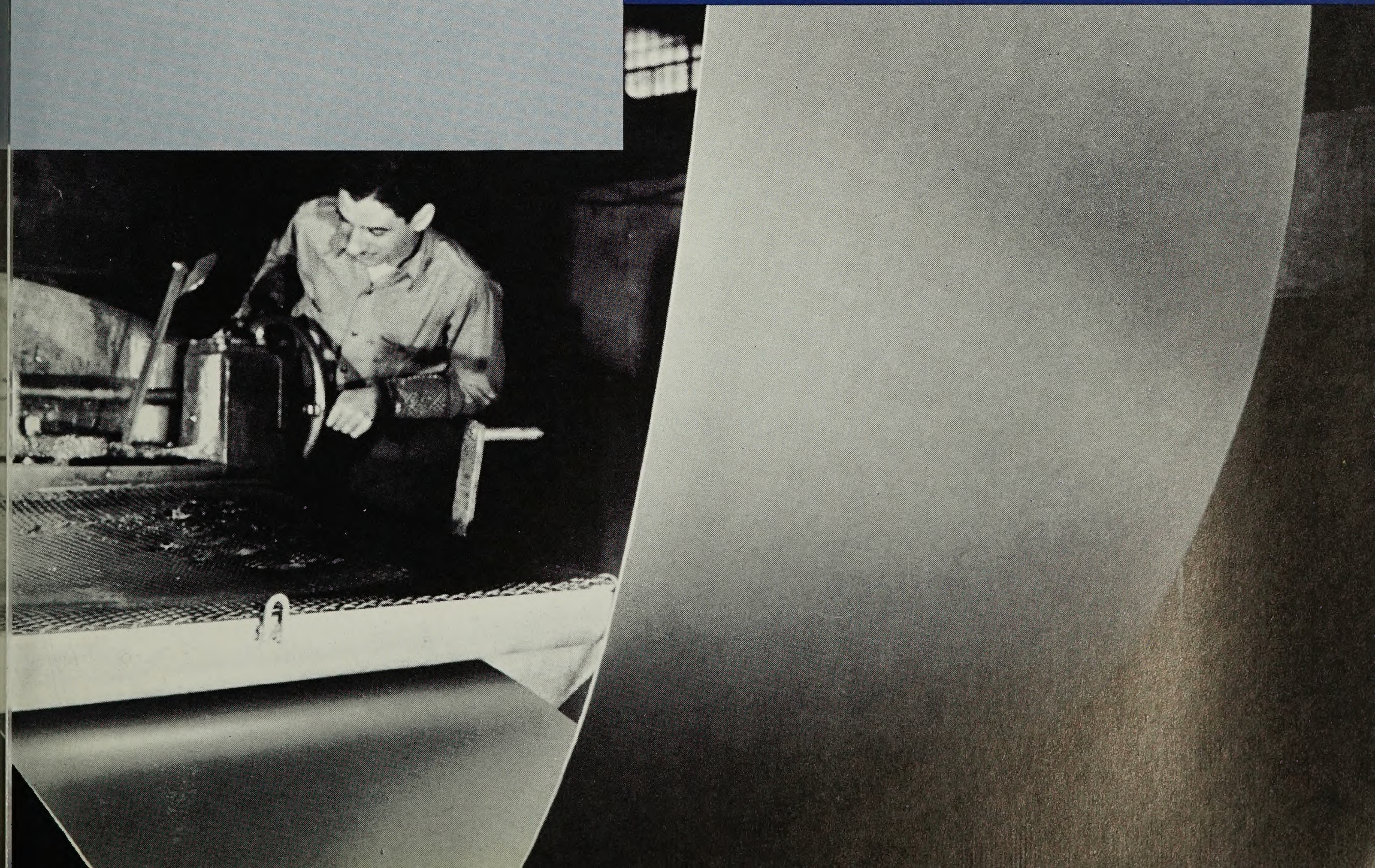
The Aluminum Surface

Aluminized Steel Type 2 has a satin-like finish that does not need paint or any other surface protection. Weight of the aluminum coating, applied to both sides of the sheet, is approximately one ounce per square foot. This results in a coating about .002″ thick on each side.

The same thickness of aluminum coating is applied to all gages of Aluminized Steel Type 2. It is about twice as thick as a commercial galvanized coating. In addition, the special continuous process by which Aluminized Steel is made not only assures a tightly adherent coating, fused to the steel base, but also produces a coating of remarkable uniformity on both sides of the sheet. Composition of the protective coating is likewise closely controlled.



Armco ALUMINIZED STEEL Type 2, coated with aluminum by a special, continuous hot-dip process, is produced in both coils and sheets, in a wide range of gages and sizes.



ALUMINIZED STEEL Type 2 offers these advantages

Hot-dip aluminum coated steel sheets provide a new two-in-one material that *combines advantages of both metals.*

Thoroughly tested in the field and laboratory and proved in service, Armco Aluminized Steel Type 2 has found extensive application in a wide variety of products. Here are some of the advantages of this special steel that can mean lower costs, improved performance and sales for your products.

Outlasts unpainted galvanized 3 to 1 in atmospheric tests

Long-time corrosion tests plus records of actual service have demonstrated the lasting ability of Aluminized Steel Type 2 to resist atmospheric corrosion.

In 1939, sheets of Armco Aluminized Steel Type 2 were placed in an industrial atmosphere alongside sheets of unpainted galvanized steel. Today, after 19 years' exposure, the coating on the Aluminized Steel sheets is still intact and its condition indicates that it will give many more years of protection to the base metal.

In comparison with the unpainted galvanized sheets, Armco corrosion engineers estimate that the coating on Aluminized Steel will last at least three times longer than a commercial galvanized coating.

Additional corrosion tests by users of Aluminized Steel Type 2 and the successful service of the material in many products exposed to atmospheric corrosion provide additional evidence of the economical durability of this special Armco steel.

"Weathers like Aluminum"

The coating on Aluminized Steel Type 2 resists the effects of weather much like aluminum. In fact, the surface of sheets of Aluminized Steel and aluminum after eight-year exposure in an industrial atmosphere appear identical.

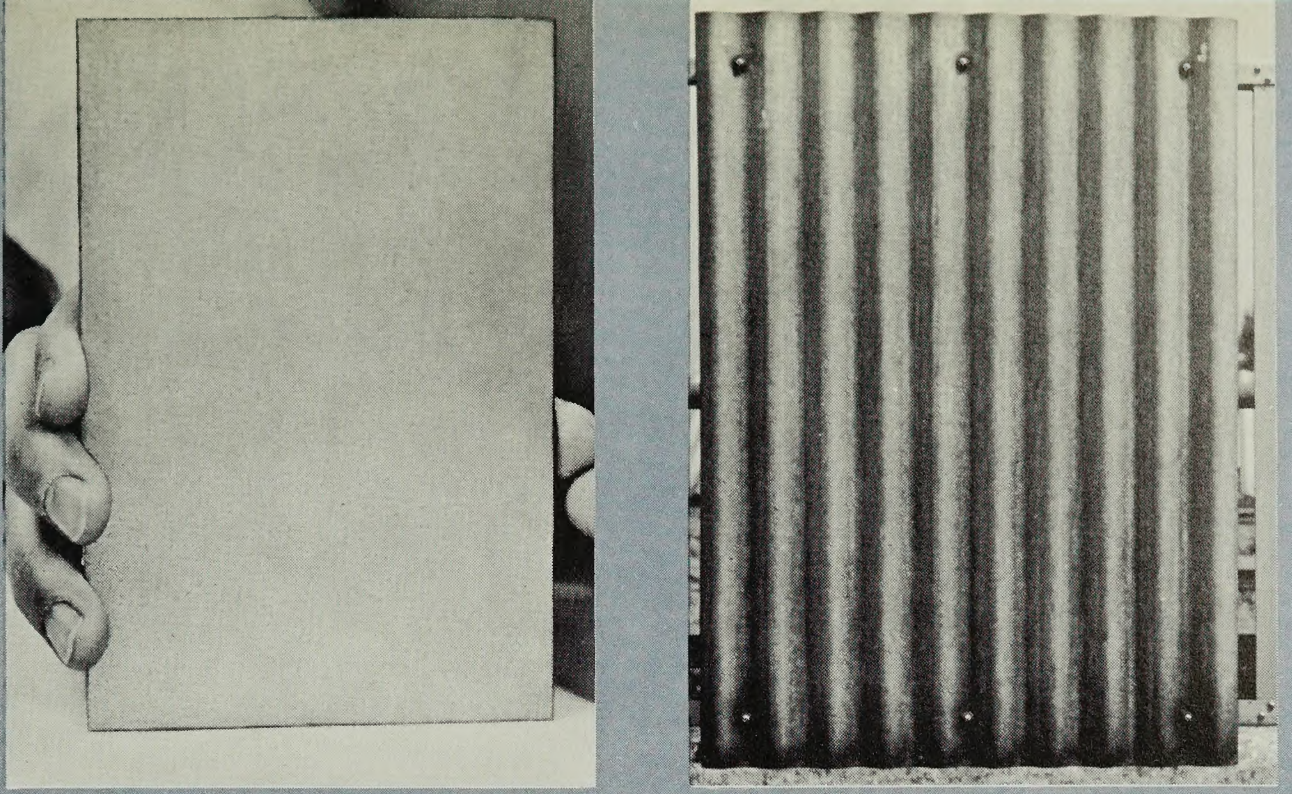
"Good as New"

Service records of Aluminized Steel Type 2 in products such as building panels, roof decking, rolling doors, awnings, truck panels and signs, confirm its excellent atmospheric corrosion resistance. In these and many other applications under a wide variety of atmospheric exposure conditions, Type 2 shows it will prolong service life and greatly reduce maintenance costs.

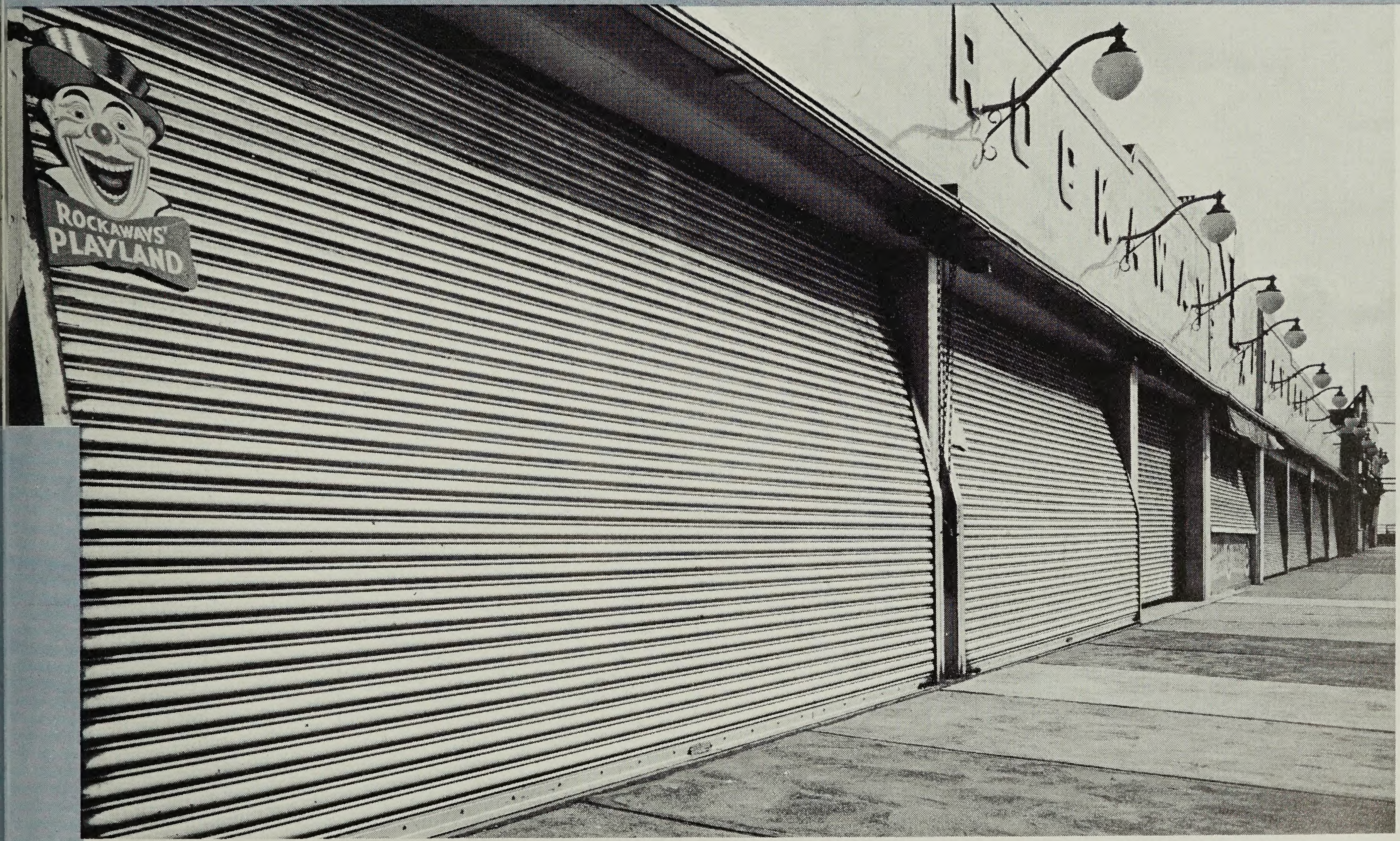
Here is a typical example. About 3 years ago the owners of a large amusement park started replacing their galvanized rolling doors with doors made of Aluminized Steel. The vice president of the park has this to say, "Our first door is 3 years old and has never required any maintenance. It looks like it was installed just a few weeks ago. Replacement of galvanized with Type 2 Aluminized Steel doors eliminates a costly annual painting job."

Rolling doors made of Armco Aluminized Steel Type 2 preserve attractive appearance, cut maintenance costs.

Combining the strength of steel with a durable aluminum coating that needs no painting, Aluminized Steel Type 2 is ideal for all types of building products.



Left: An ALUMINIZED STEEL Type 2 sheet cleaned of surface dirt after 15-year exposure to an industrial atmosphere. Right: Surface of a corrugated ALUMINIZED STEEL Type 2 sheet after eight years in an industrial atmosphere, uncleaned. In both cases, the special coating is still giving protection against atmospheric corrosion. Inspection indicates the sheets have many more years of useful life.



Physical and mechanical properties of steel

The steel base of Aluminized Steel gives this special material all the advantages of high strength plus the surface protection of an aluminum coating. Economical structures that are strong and rigid are easy to design because of the material's high strength and modulus of elasticity. Because standard design manual data for light gage cold-formed steel products apply to Aluminized Steel Type 2, design work is further simplified.

Here are *typical mechanical properties* of Type 2 Aluminized Steel compared with similar properties of three aluminum alloys.

	ALUMINIZED STEEL Type 2	Aluminum		
		2S H12	52S-H-34	61S-T4
Tensile Strength, psi	54,000	15,000	37,000	35,000
Yield Strength, psi	40,000	13,000	29,000	21,000
Elongation, % in 2"	22	12	8	22
Modulus of Elasticity, psi	29,000,000	..........10,000,000..........		

In addition to the high strength of Aluminized Steel, its low coefficient of thermal expansion is another advantage. Expanding only 0.0000067 inches per inch per degree F, fewer expansion joints are required than for aluminum. Less total movement from repeated expansion and contraction due to temperature changes minimizes the possibility of tearing at fasteners or causing fatigue failures.

Resistance to fire damage

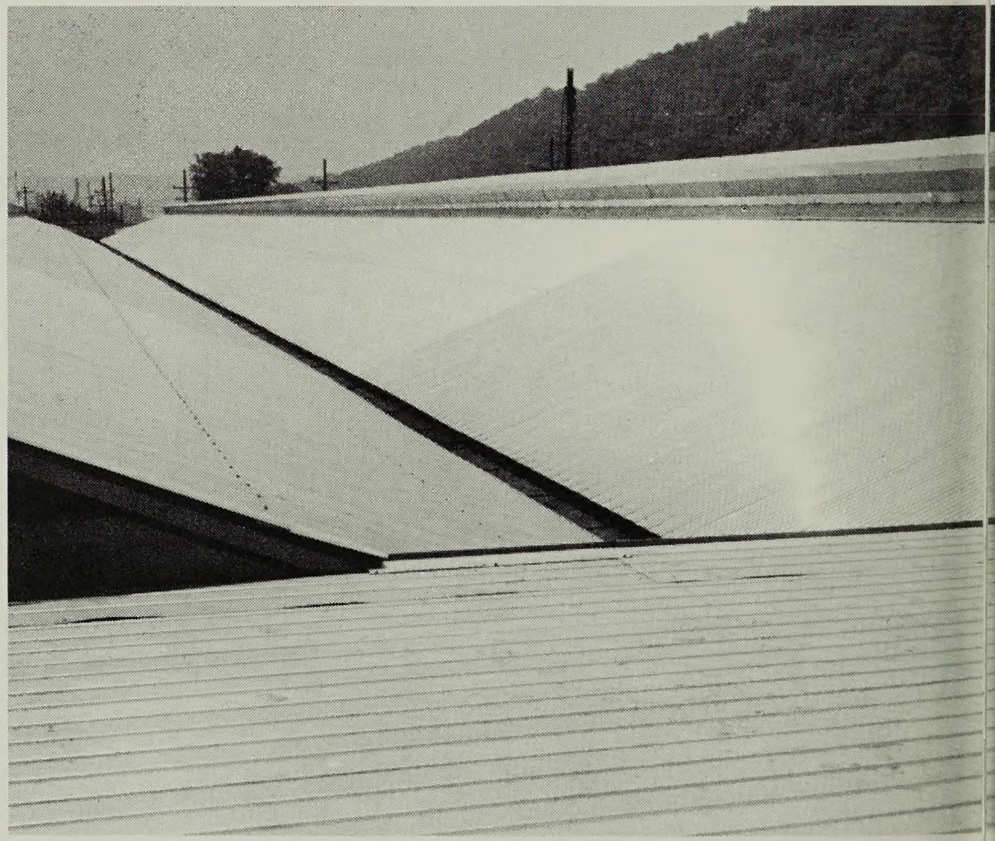
The combination of properties possessed by Aluminized Steel Type 2 gives it unique resistance to both structural and surface damage by fire.

At 800 F, for example, this special coated steel has more than ten times the strength of aluminum. Steel has a melting point of approximately 2850 F; aluminum melts at about 1200 F.

Strength at elevated temperatures means that Aluminized Steel Type 2 will reduce the extent of structural damage due to fires. This property is important in the design of building elements such as panels, roof deck, siding and rolling doors.

In addition to maintaining strength at elevated temperatures, Aluminized Steel Type 2 retains its attractive appearance when exposed to temperatures up to about 900 F.

The corrosion resistance, high strength and low coefficient of expansion of Aluminized Steel Type 2 combine to make it an economical material for roof decking.



Ability of Aluminized Steel to reflect solar heat helps keep buildings cooler in summer and makes them easier to heat in winter.

High heat reflectivity

Another desirable property of Aluminized Steel, useful in many applications, is its ability to reflect heat. The aluminum coating reflects approximately 80% of incident radiant heat.

These reflectance figures were determined by approved laboratory test methods and can be readily confirmed by exposing a sheet of Type 2 to a source of radiant heat, the sun or an electric heating element. Note the difference in reflected heat compared with black iron or a painted metal panel.

This characteristic of Aluminized Steel Type 2 enables you to keep heat where you want it. Unwanted solar heat is reflected to cut down summer cooling loads; in winter, costly generated heat is retained. The high heat reflectivity of Armco Aluminized Steel has proved to be an especially advantageous property in many applications.

Lower costs

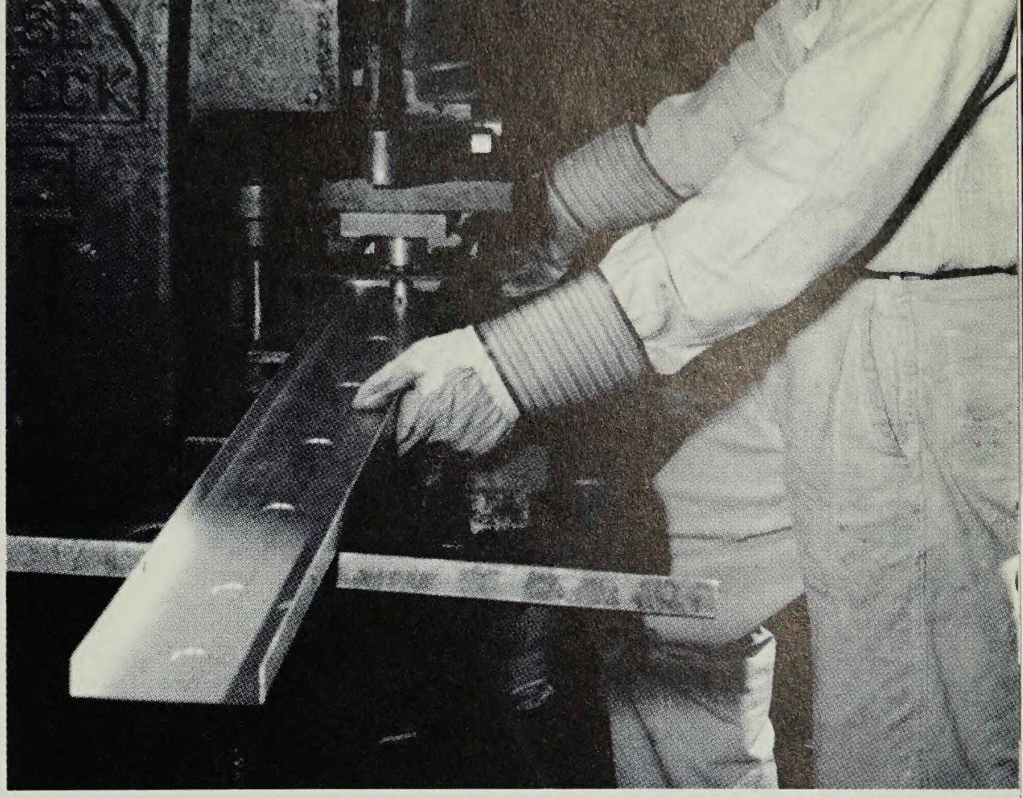
Strength and durability of Aluminized Steel Type 2 create the opportunity to save money as well as improve the performance of your products. On the basis of either first cost or net cost per year, this special steel offers unusual economies.

By using Aluminized Steel in place of aluminum of equal thickness, material costs can be cut 29 to 45%, depending on the thickness and type of aluminum alloy used. And because the greater strength of Aluminized Steel usually permits reductions in thickness compared to aluminum, cost savings can be even greater. In some cases, they may be as high as 60%.

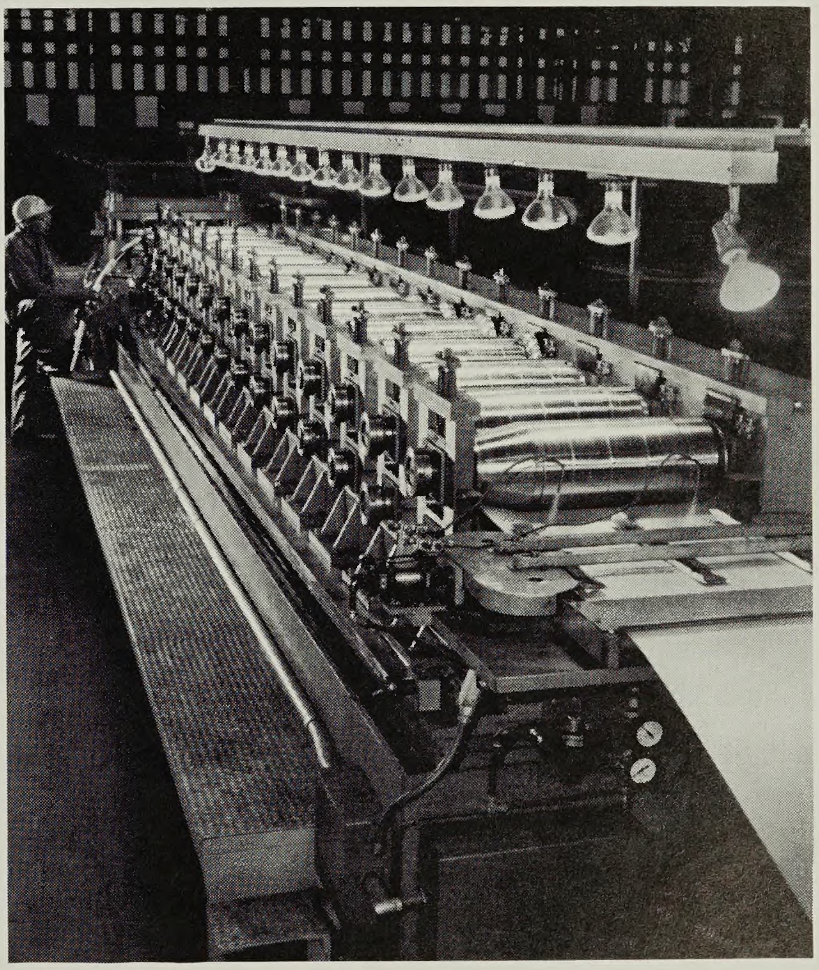
Savings are also possible by using this special steel in place of galvanized. Although the cost of Aluminized Steel Type 2 is somewhat higher than galvanized, worthwhile savings are possible because Aluminized Steel provides much longer service life and requires much less maintenance. For example, Aluminized Steel Type 2 needs no paint for protection. Cost of one field coat of paint on galvanized steel usually more than offsets the higher cost of Aluminized Steel Type 2.

Good fabricating properties

Aluminized Steel Type 2 can be fabricated by standard production methods. It withstands moderate brake- or roll-forming operations and can be bent 180 degrees over a diameter equal to twice its thickness without flaking or peeling of the coating. The material can also be spun or embossed, but is not suitable for drawing operations. All of the various methods of production welding can be used to join Aluminized Steel Type 2. The steel base also permits the use of standard methods of mechanical fastening. Additional information on the fabrication of this special Armco Steel is presented on pages 16 to 20.

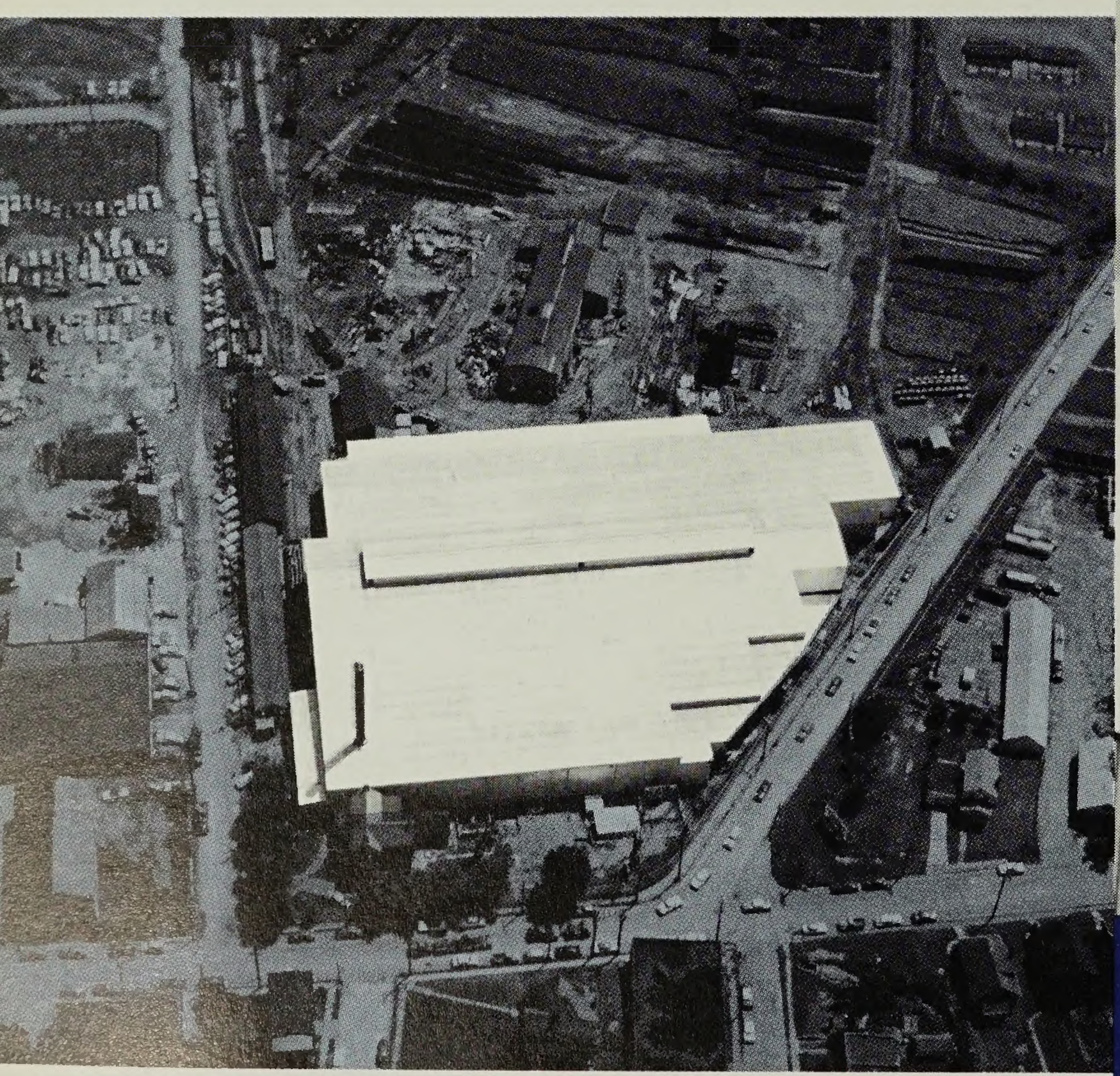


Parts made of Aluminized Steel Type 2 can be produced on standard production equipment including high-capacity roll-forming machines.

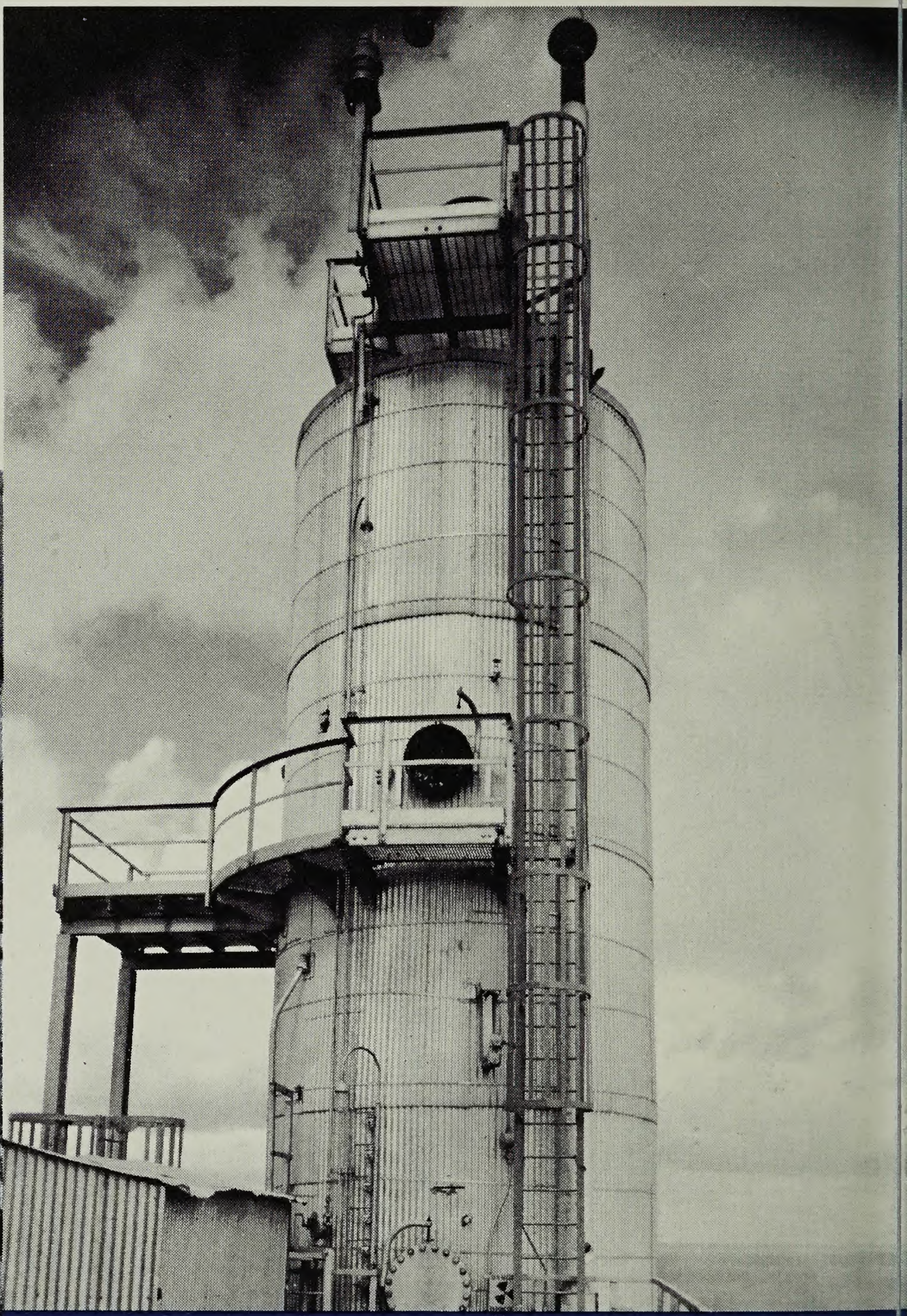


Where ALUMINIZED STEEL Type 2 has improved performance and cut costs

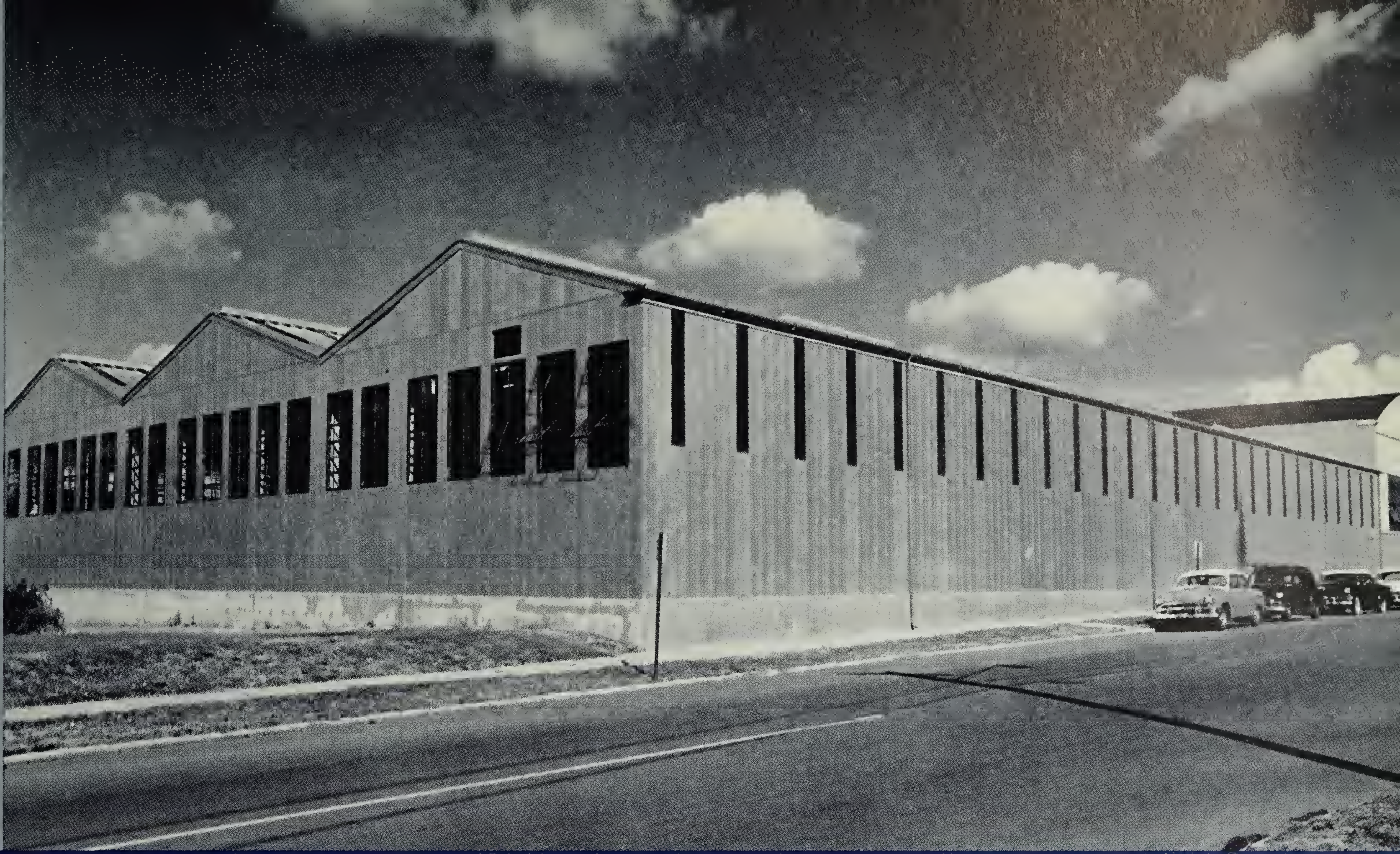
The multiple advantages of Armco ALUMINIZED STEEL Type 2, highlighted by its excellent resistance to atmospheric corrosion, have resulted in extensive use of the material for a wide variety of industrial, consumer and building products. Here are some typical examples of where and how ALUMINIZED STEEL Type 2 has been utilized to improve product durability and performance, as well as reduce both manufacturing and maintenance costs.



ALUMINIZED STEEL Type 2 was specified for the corrugated roofing and siding on this industrial plant because of its resistance to atmospheric corrosion.



Weather shields made of ALUMINIZED STEEL Type 2 not only offer low cost protection for vital processing units in chemical and petroleum plants but also effective insulation by reflecting a high percentage of radiant heat.



The durable hot-dip aluminum coating on Armco ALUMINIZED STEEL Type 2 assures lasting attractive appearance for buildings like this. No painting is needed.

Armco ALUMINIZED STEEL gives these silo roofs lasting protection from the weather and the strength for protection against fire and mechanical damage.

Additional applications

The unusual combination of advantages offered by Aluminized Steel Type 2 is being used to give added sales potential and lower costs to a growing list of products. Here are just a few additional examples of the kind of products where manufacturers are using this special metal:

- **Agricultural implements**
- **Air conditioner housings**
- **Air filter frames**
- **Acoustical tile**
- **Awnings and supports**
- **Building panels, components**
- **Cabinets**
- **Ceiling panels**
- **Clothes dryers, outdoor**
- **Corrugated roofing and siding**
- **Curtain walls, interior panels**
- **Display racks**
- **Drying ovens**
- **Ductwork, industrial**
- **Farm buildings**
- **Furnace and heater casings**
- **Garage doors, overhead**
- **Outdoor table tops**
- **Patio covers**
- **Prefabricated buildings**
- **Roof decking**
- **Screen frames**
- **Shelves**
- **Signs, outdoor**
- **Truck body panels**
- **Truck trailer roofs**
- **Ventilators**

Available Gages

Armco Aluminized Steel Type 2 is produced in both sheets and coils, in thicknesses ranging from 13 to 28 gage. Depending on gage, coils and sheets are available in widths up to 48 inches. Table shows the maximum coil and sheet sizes produced in each gage.

Gage	Sheets		Coils
	Max. Width in.	Max. Length in.	Max. Width in.
13 (.1008-.0860")	36	192	36
14-24 (.0859-.0262")	48	192	48
25 (.0261-.0232")	44	192	40
26-28 (.0231-.0180")	36	192	36

Aluminized Steel Type 2 is supplied surface treated and oiled unless otherwise specified. (See section on Storing and Handling, page 20). When extreme flatness or close tolerance is required sheets can be ordered stretcher-leveled or resquared.

Because of the low density aluminum coating, the thickness and weight per square foot of Aluminized Steel differ somewhat from those listed in standard gage-weight tables. For all computations in the design or fabrication of Aluminized Steel Type 2, the following gage-weight table should be used.

Gage-Weight Table for Armco ALUMINIZED STEEL Type 2

Gage No.	Mean Weight lbs. per sq. ft.	Approximate Thickness in.	Ordering Limits	
			Weight lbs. per sq. ft.	Thickness in.
13	3.789	.0934	4.101-3.477	.1008-.0860
14	3.164	.0785	3.476-3.008	.0859-.0748
15	2.852	.0710	3.007-2.696	.0747-.0673
16	2.539	.0635	2.695-2.414	.0672-.0606
17	2.289	.0575	2.413-2.164	.0605-.0546
18	2.039	.0516	2.163-1.914	.0545-.0486
19	1.789	.0456	1.913-1.664	.0485-.0426
20	1.539	.0396	1.663-1.477	.0425-.0382
21	1.414	.0366	1.476-1.352	.0381-.0352
22	1.289	.0336	1.351-1.227	.0351-.0322
23	1.164	.0306	1.226-1.102	.0321-.0292
24	1.039	.0276	1.101- .977	.0291-.0262
25	.914	.0247	.976- .852	.0261-.0232
26	.789	.0217	.851- .758	.0231-.0210
27	.727	.0202	.757- .696	.0209-.0195
28	.664	.0187	.695- .633	.0194-.0180

Sizes and Forms

Mechanical properties

Armco Aluminized Steel Type 2 is produced to meet fabricating and surface requirements rather than mechanical properties. However, the material has good mechanical properties that make it especially useful in many products where strength is an important design factor. See page 6 for typical mechanical properties.

Tubing and corrugated sheets made of Armco ALUMINIZED STEEL Type 2

In addition to sheets and coils, Armco produces welded steel tubing and corrugated roofing and siding sheets made of Aluminized Steel Type 2. These products have all the unique advantages of the special steel from which they are made, plus the added stiffness and rigidity of corrugated and tubular shapes.

ALUMINIZED STEEL TUBING

Aluminized Steel Type 2 Tubing is produced in ⅜ to 3″ diameter round tubing, with wall thicknesses of 13 to 20 gage depending on diameter. With the corrosion protection of a hot-dip aluminum coating, this special welded steel tubing is ideal for products to be used outdoors. For TV masts and fittings, awning supports, outdoor clothes dryers and similar applications, its rust-resistant surface attracts and pleases customers.

ALUMINIZED STEEL CORRUGATED SHEETS

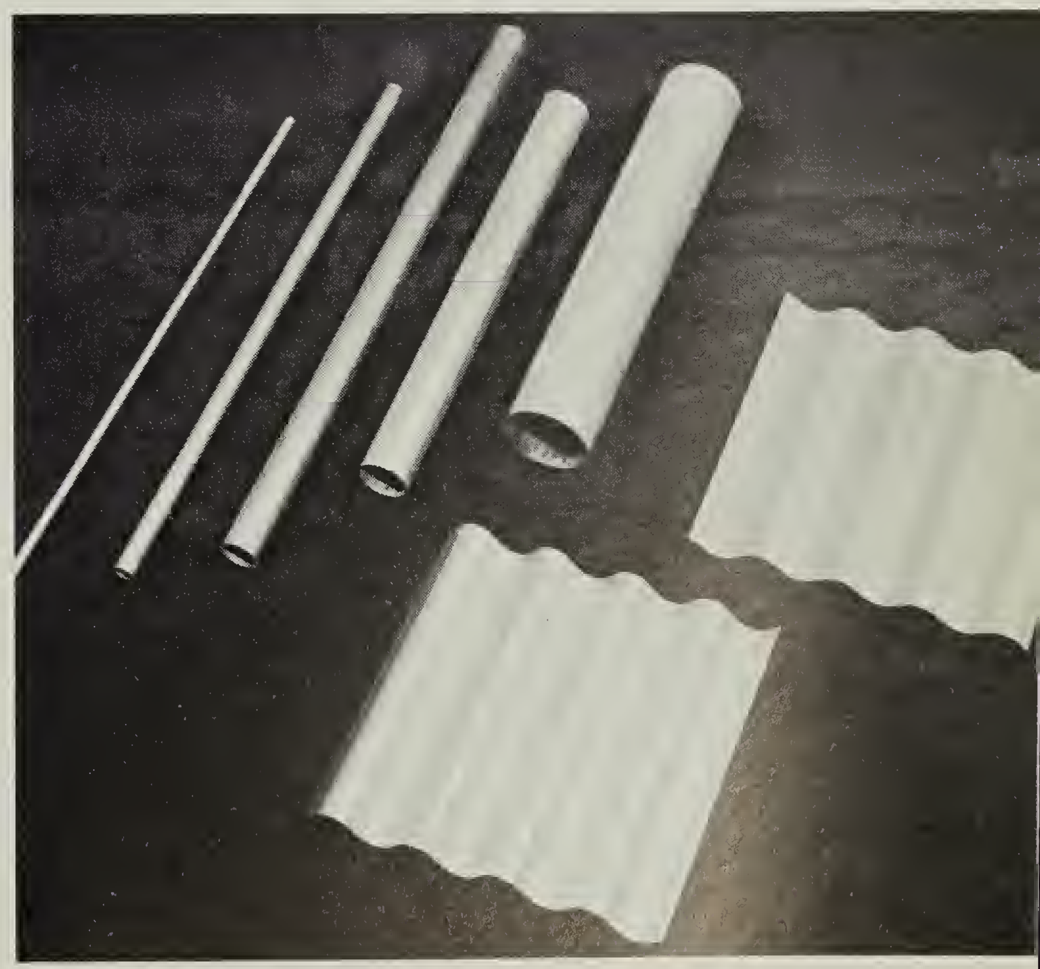
Armco Aluminized Steel Type 2 is also produced in the form of corrugated sheets. Standard corrugations are available plus a new deeper corrugation, 2⅔″ by ⅞″, that offers increased beam strength and rigidity.

In this form it is ready to use in building construction and provides a material that is both durable and economical. The hot-dip aluminum coating resists atmospheric corrosion without the necessity of painting, and the steel base provides rigidity and high strength.

The range of sizes and gages of Type 2 Aluminized Steel corrugated sheets produced by Armco are listed in the following table:

Corrugation, in.	Gage	Width of Sheets After Corrugating in.
1¼ by ¼	22, 24, 26	26 and 27½
2½ by ½	16, 18, 20 22, 24, 26	26, 27½ and 33
2⅔ by ⅞	24	26, 27½ and 33
	26	26, 27½

For complete information on either welded steel tubing or corrugated sheets made of Armco Aluminized Steel Type 2, write or call your nearest Armco sales office.



Fabricating and finishing Armco ALUMINIZED STEEL Type 2

Fabrication of Aluminized Steel Type 2 is simple. The tightly adherent aluminum coating and the formable, weldable base metal mean that most standard fabricating procedures can be used. And its inherent corrosion resistance makes finishing both easy and economical.

However, the aluminum coating makes it necessary to modify some of the standard fabricating practices used for cold-rolled steel. These include additional care in handling due to the softness of the aluminum coating, and revisions of welding procedures to insure maximum joint efficiencies. Experience in manufacturing plants of all sizes has demonstrated that Aluminized Steel can be economically fabricated with standard equipment.

Forming

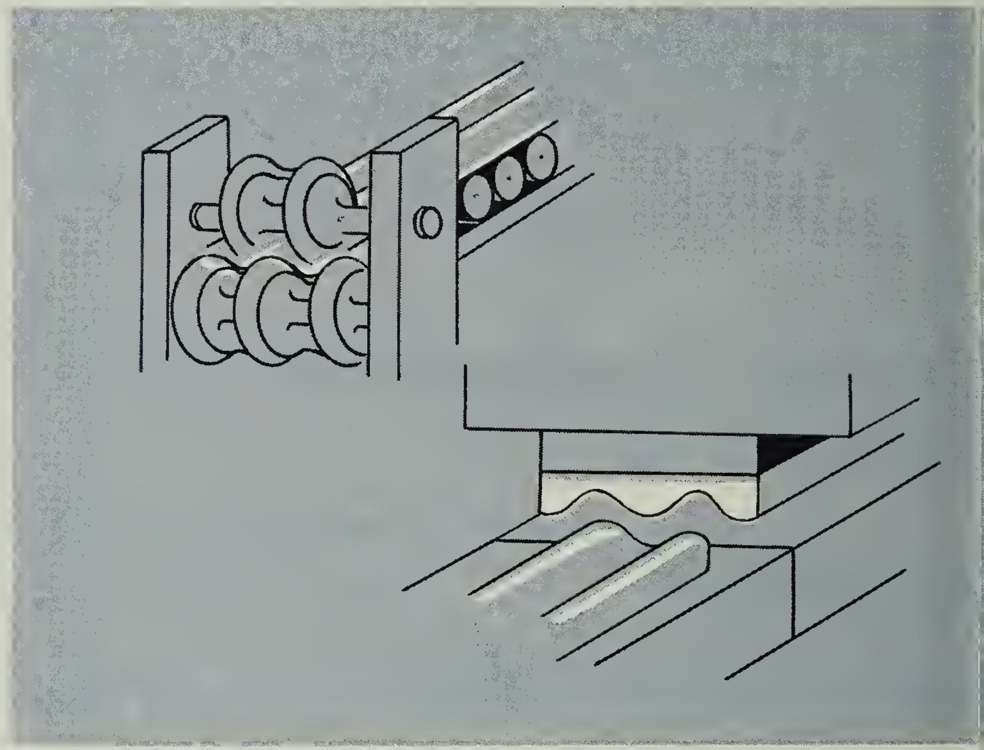
Aluminized Steel Type 2 has good forming properties. Moderate brake- or roll-forming operations can be performed, including Pittsburgh lock seam in 20 gage and lighter, without flaking or peeling of the aluminum coating or damage to the base metal. When bent cold 180 degrees over a diameter equal to twice the thickness, the coating does not flake or peel.

Type 2 can also be spun or embossed but it is not suitable for drawing operations.

In some forming operations where sharp bend radii are used, the heavier gages of Aluminized Steel Type 2 may show some crazing of the coating along the bend line. On exposure to the atmosphere, these areas may show some discoloration. Ordinarily the discoloration does not progress with time, or cause bleeding or undercutting of the coating.

Crazing can be minimized or eliminated by using lighter gage material or larger bend radii.

Sheared edges will show some rust on exposure to the atmosphere. The amount depends on the type of atmosphere and the metal thickness. It is less with thin sheets and becomes less noticeable as surfaces become dirty. Exposure tests indicate that there is no bleeding and that the coating is not undercut.

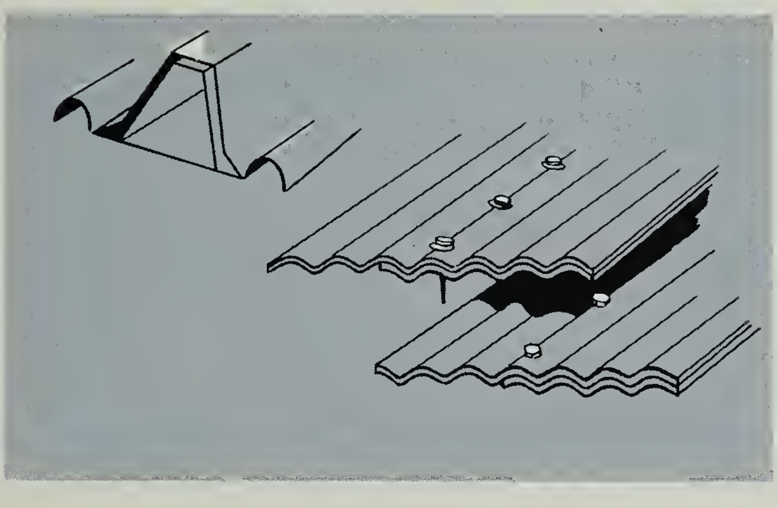


Fastening

The high strength and corrosion resistance of Aluminized Steel Type 2 simplify its attachment or assembly by mechanical means. No special precautions are required and any method of fastening can be used. However, since the material maintains its attractive appearance and structural integrity, fasteners that give correspondingly long service should be selected.

Bolts or sheet metal screws should be hot-dip galvanized for satisfactory life in normal or mild industrial atmospheres. For more severe service, stainless steel bolts and screws are recommended.

Hot-dip galvanized or aluminum nails give good service life and will not mar the appearance of Aluminized Steel with rust stains. The foregoing recommendations should also be followed if rivets or other mechanical devices are used to fasten or assemble parts made of Aluminized Steel Type 2.



Welding

Any of the standard methods of welding can be used to join Aluminized Steel. Good joint efficiency is obtained, provided welding techniques are adapted to the properties of the material. Since welding heat damages some of the protective aluminum coating in the weld area, resistance welding is recommended wherever practical.

Spot welding is especially suitable because it does not materially impair the corrosion resistance of the material. If fusion welding is used, corrosion resistance can be restored to the weld areas by metallizing. Welds can also be protected with high grade aluminum paint but the protection is not as good as that provided by metallizing.

In all types of fusion welding, the aluminum oxide on the surface of the coating, as well as that formed during welding, tends to prevent steel-to-steel contact and increase weld porosity. But by using proper welding fluxes and recommended welding techniques, this problem can be minimized.

SPOT WELDING

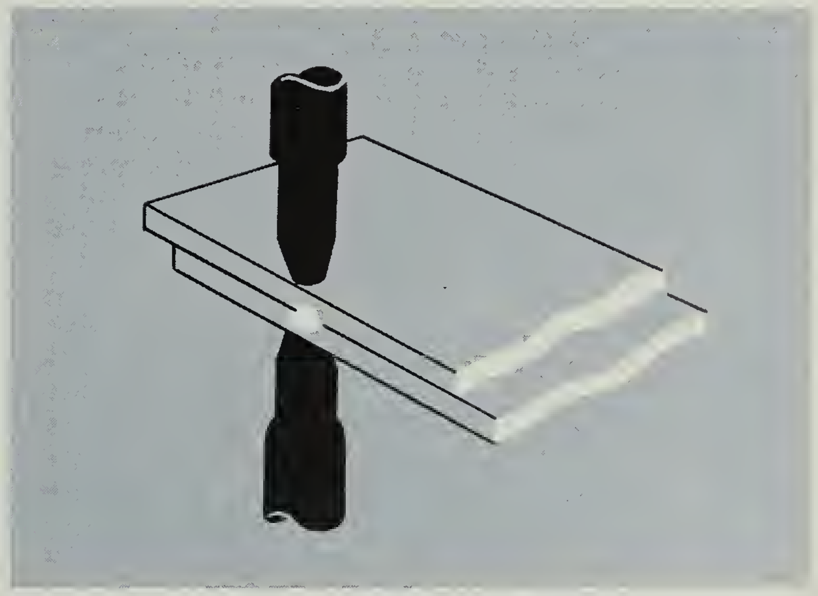
Aluminized Steel Type 2 spot welds satisfactorily on a production basis. Due to its aluminum coating, in some respects the material behaves more like aluminum than steel. Consequently, some deviations from normal practice for mild steel are necessary.

Parts must be clean to insure uniformly sound welds. Recommended cleaners for removing oil or other surface contaminants are listed in the section on Finishing, page 19.

Both top and bottom welding tips should be made of Class II hard copper alloy and have a diameter of about ⅝″. Dome radii of about 1″ are recommended for material under .030″ thick and approximately 2″ for heavier material. Tips will "pick-up" more than when welding steel, therefore must be kept dressed with fine emery. They should also be water-cooled or refrigerated to insure best performance and tip life.

Because Type 2 has high electrical conductivity, current requirements are greater than for uncoated steel. For .018″ thick material approximately 70% more current is required, but this decreases to about 30% for .080″ thick material. Current duration should be very short, 2 to 18 cycles, and electrode force, depending on gage, should range from 350 to 1500 pounds.

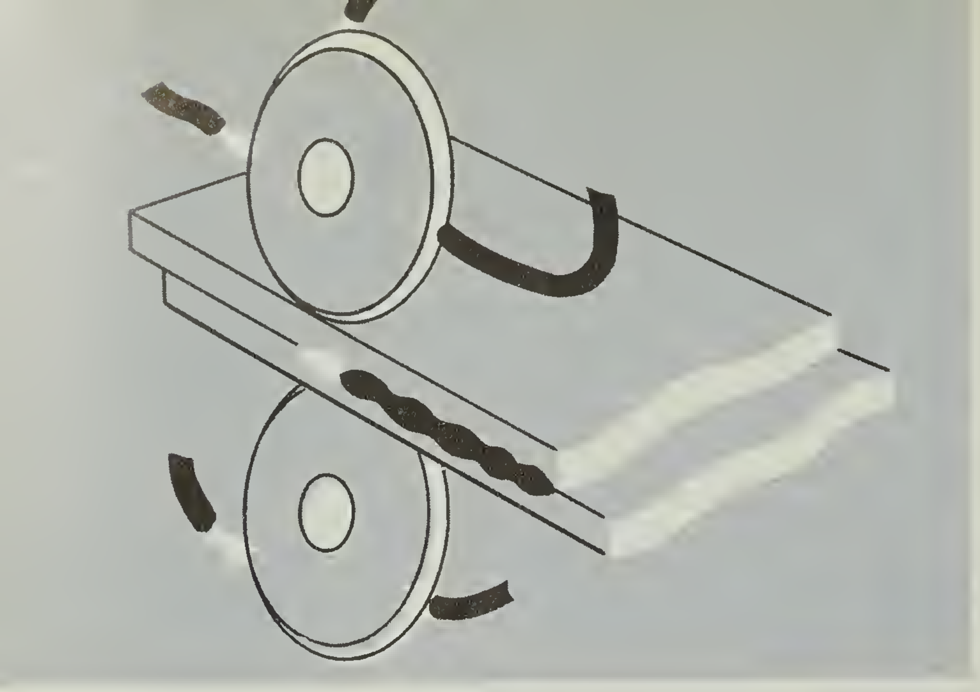
If made according to recommendations, spot welds in Type 2 Aluminized Steel will have good strength and corrosion resistance.



SEAM WELDING

The same general recommendations for spot welding also apply to seam welding.

Class II hard copper alloy roller electrodes should be used to give maximum electrode life. Best results



are obtained by seam welding Aluminized Steel under water or applying streams of water to both upper and lower rolls. This produces maximum cooling effect and reduces pick-up. Knurled drives are suggested for both rolls to help remove adhering metal from the contact edges of the rollers.

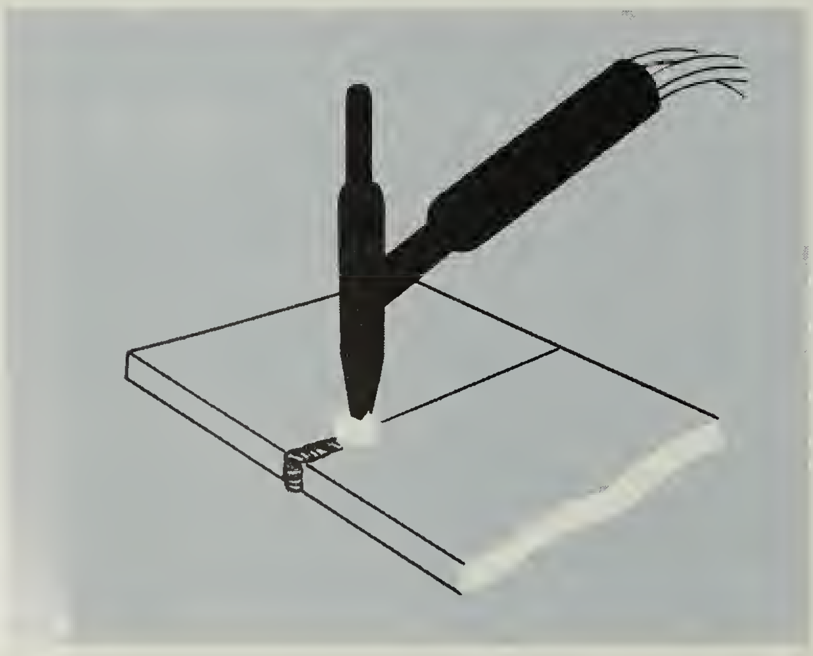
As in spot welding, the current required to make satisfactory welds is greater than that for welding uncoated steel.

INERT-GAS ARC WELDING

This type of welding is suitable for Aluminized Steel because the protective shield of inert gas protects the coating and prevents excessive formation of aluminum oxide. No flux is necessary and either argon or helium may be used as the shielding gas.

With straight polarity DC current, welding is fast, particularly when no filler rod is needed. Where filler rod must be used, welding wire such as Airco A675 or Oxweld #1 gives good results.

Although the inert-gas shield effectively minimizes the formation of aluminum oxide, it is desirable to remove the coating about $\frac{3}{16}''$ back from the joint when welding 16 gage or thinner material. This helps insure high quality, ductile weld deposits. The aluminum coating can be removed by grinding or scraping.



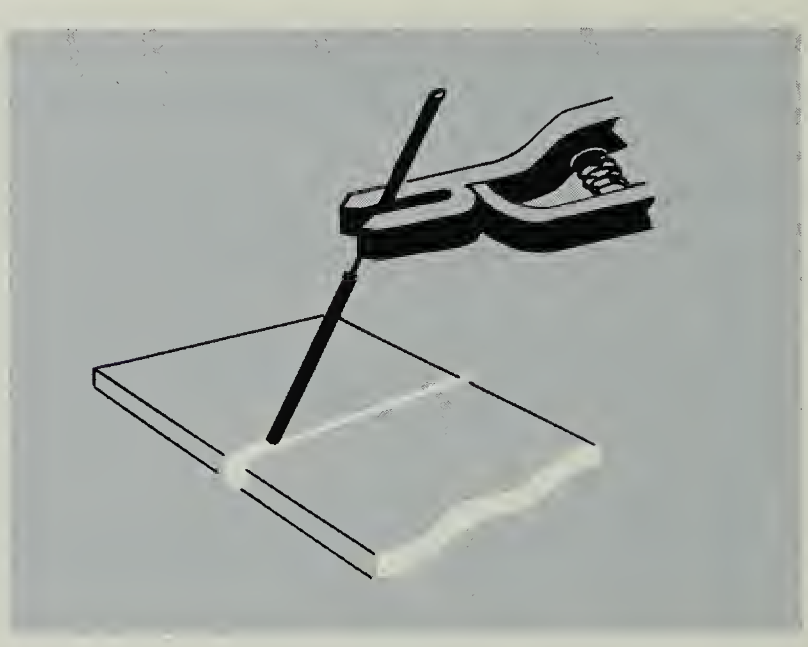
METAL ARC WELDING

Welding Armco Aluminized Steel Type 2 by this method requires a covered metal electrode. Flux coatings must be capable of producing a fluid protective cover which will dissolve aluminum oxide. Low hydrogen rods such as General Electric W-32, Lincoln LH-70, Reid-Avery Raco-Fer-Al and Westinghouse Flex-Arc LOH-2 give best results.

Good welds also can be made with Type 308 stainless steel welding rod covered with either DC or AC-DC coatings.

For best quality welds, the aluminum coating should be removed at the joints, as described under Inert-Gas Arc Welding.

Welding current should be kept as low as possible to minimize burning the protective aluminum coating. Methods of restoring corrosion resistance to welded joints are discussed in the section on Cleaning Welds, page 19.

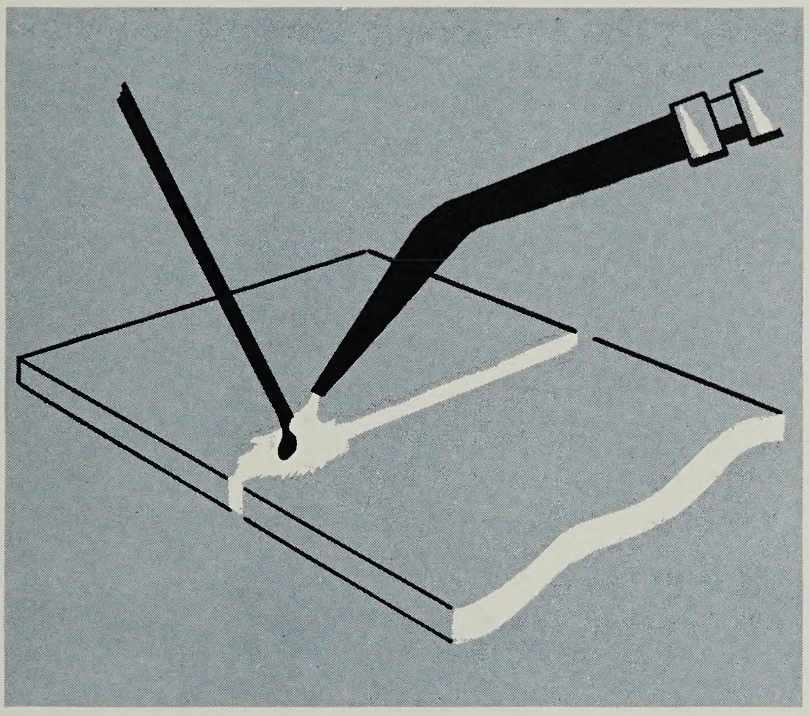


OXY-ACETYLENE WELDING

To eliminate aluminum oxide from oxy-acetylene welds in Aluminized Steel Type 2, fluxes of the type used on stainless steel are recommended. And to insure adequate fluxing action, flux should be applied to both sides of the parts to be joined and to the welding rod.

Filler rod materials similar to Oxweld #1 has been found to give good results with this method of welding.

Because of the greater amount of heat applied to the metal in oxy-acetylene welding, precautions should be taken to minimize its damaging effect on the coating. Use the smallest burner tip possible and chill plates wherever it is practical to do so. Since the protective coating on ALUMINIZED STEEL is affected least by the arc methods of fusion welding, they are preferred to oxy-acetylene welding.



CLEANING WELDS

All slag and oxides as well as residual flux must be removed from fusion welded joints. Normally, sand blasting or wire brushing will adequately clean welds. If flux has been used, however, washing with water may be necessary to completely remove flux deposits. Welding fluxes contain chemicals that will attack the weld and adjacent metal if moisture is present. After cleaning, joints should be sprayed with metallic aluminum (metallizing) or coated with aluminum paint (brush method).

Brazing and Soldering

BRAZING

High strength brazed joints can be made with ALUMINIZED STEEL Type 2 by using silicon-bronze rods with the flux recommended by the rod manufacturer.

Aluminum-alloy brazing rods will join the aluminum-coated edges of ALUMINIZED STEEL but will not produce a steel-to-steel joint. Consequently, they are recommended only for assemblies where the deposited metal is used primarily to make seams water- or air-tight. Fluxes recommended by the rod manufacturer should be used in aluminum-alloy brazing.

SOLDERING

The same difficulties encountered in soldering solid aluminum are also encountered in soldering Armco ALUMINIZED STEEL. The insoluble aluminum oxide film always present on an aluminum surface prevents the solder from wetting the coating and making a metal-to-metal contact.

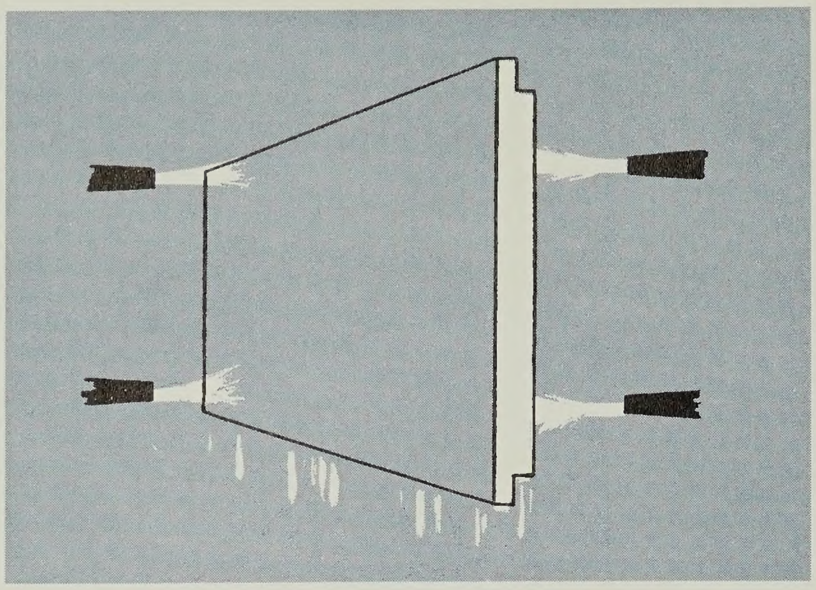
Because of these inherent difficulties, no practical method has been developed for soldering Type 2 ALUMINIZED STEEL.

Finishing ALUMINIZED STEEL Type 2

Because of its excellent atmospheric corrosion resistance and attractive appearance, Armco ALUMINIZED STEEL Type 2 does not need surface finishing. The material as it comes from the mill is ready to give your products long lasting sales appeal. However, ALUMINIZED STEEL can be painted if desired. It has good paint adherence. The material cannot be anodized.

CLEANING

Cleaning ALUMINIZED STEEL follows standard practice for metal cleaning, with the exception that the softness and chemical nature of the aluminum coating must be considered. Strong alkaline cleaners attack aluminum and should not be used. Steel wool or metal cleaning tools also should be avoided. Use wooden tools to prevent gouging or scratching the surface. Where necessary, mill-applied oil or forming lubricants can be removed with standard solvents or vapor degreasers. Cleansing solutions can also be used, but they should be of the non-etching type. Typical satis-



factory cleaners are: Diversey #36, Oakite Saturol, Quaker TM 2909, E.C. 10, Emlon, and Detrex AC. A hot water rinse should follow cleaning. For normal cleaning in service, Wear-Ever cleaner is recommended. Other cleaners, such as Bon Ami and Bab-O, are slightly alkaline and will lightly attack the aluminum surface.

BUFFING

Where a polished surface is desired for appearance or improved light reflectivity, Aluminized Steel can be buffed. Pressures should be light and a medium muslin buff with a thread count of 82-94 is recommended. Fine-grain Tripoli powder works well as the buffing agent.

Buffed surfaces can be lacquered to preserve their appearance in outdoor exposures.

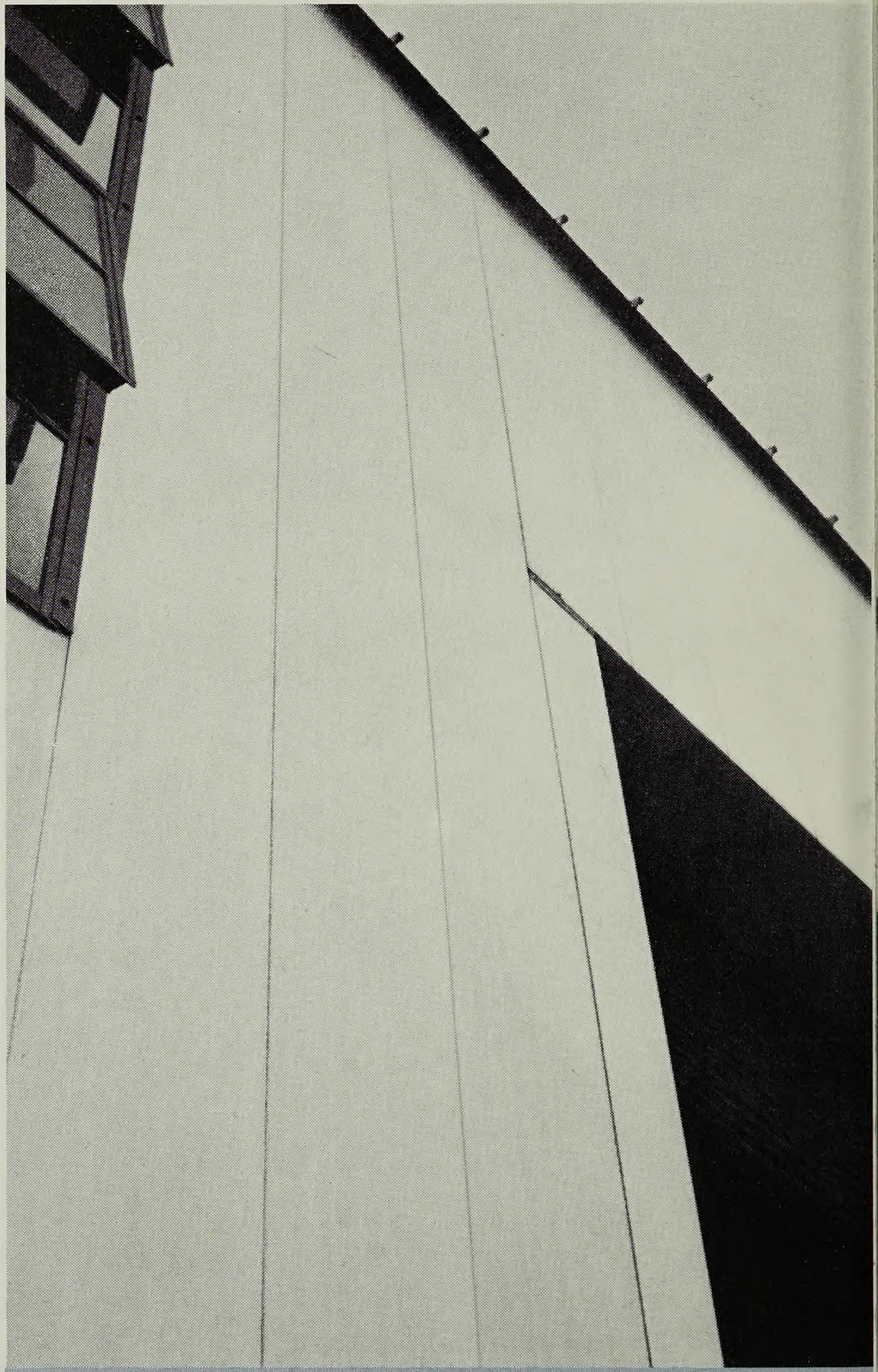
PAINTING

Armco Aluminized Steel Type 2 is normally supplied with a surface treatment that takes paint and insures good paint life. Standard painting schedules can be used. Exposure tests and service experience indicate that paint properly applied to clean sheets of Aluminized Steel Type 2 adheres well.

Storing and Handling ALUMINIZED STEEL

Normal procedures for handling and storing any quality sheet steel should be used with Aluminized Steel. However, due to the inherent softness of aluminum, additional care should be exercised to prevent marring or scratching the surface.

Precautions must also be taken to prevent accumulation of moisture between stacked sheets or in coils. On any aluminum surface, this may cause "water staining." However, the surface treated and oiled condition, in which Aluminized Steel Type 2 is normally supplied, resists the formation of water stains. If the material is ordered unoiled or without the surface treatment, the risk of water staining is increased.



The surface of Aluminized Steel Type 2 does not require the protection of paint. These building panels have been in service for more than three years in an industrial atmosphere.

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A Special Quality Steel For Every Purpose

Besides Aluminized Steel Type 2, Armco makes other special-purpose sheet steels, as well as commodity grades, for practically every manufacturing requirement.

When you design or redesign your products or equipment, you will want detailed information about these steels. Literature containing complete data on the special grades is usually available. Just write to the home office of the company, or get in touch with the nearest Armco district office at the address listed on the back cover.

ALUMINIZED STEEL Type 1

Companion grade of Aluminized Steel Type 2. This grade has excellent resistance to the combination of heat and corrosion.

Cold-Rolled and Hot-Rolled

A complete range of hot- and cold-rolled sheets and strip in cut lengths or coils, including Armco Cold-Rolled deep-drawing stabilized (non-aging) steel. Also light plates.

Cold-Rolled PAINTGRIP

Cold-rolled sheets or coils given a flash-coating of zinc, then mill-Bonderized for ready painting. Recommended for products demanding long paint life with extra-smooth finish. Produced in full cold-reduced range, regular or deep-drawing.

Electrical Steels

There is a grade of Armco Electrical Steel for every need—motors, transformers, generators, and other equipment. Advanced types include "Oriented" electrical steels and "Thin-Gage" as light as 0.001″ for high frequency applications.

Enameling Iron

A grade of Armco Ingot Iron especially processed for porcelain enameling. Widely used because of its refinement, uniformity, bonding properties, freedom from gas-forming impurities, and resistance to sagging at firing temperatures.

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Galvanized Sheets

Supplied in Armco Ingot Iron, steel or copper-bearing steel base.

Long Ternes

Lead-tin alloy coated sheets for flat and deep-drawing requirements. Good painting and soldering qualities. Made in full range of base metals, gages and sizes.

Stainless Steels

Sheet, strip, plate, bar and wire in chromium-nickel and chromium types. For corrosion resistance, heat resistance, attractive appearance, high strength and other exacting requirements. New developments include extra-low carbon and precipitation-hardening grades.

Tubing

Electric resistance welded tubing in standard and special shapes for mechanical and structural applications such as bicycles and furniture. Made in hot-rolled and cold-rolled finishes, ⅜″ through 3″ o.d. Wall thicknesses range from 0.028″ through 0.083″. Range of tubing offered also in Zincgrip Steel and Aluminized Steel.

ZINCGRIP

An extra durable zinc-coated sheet especially developed for severe forming and deep-drawing operations, made in steel, copper-bearing steel or Armco Ingot Iron. The special coating will not peel or flake—it stretches with the base metal. Supplied in gages 14 through 28 and up to 50 inches wide depending on gage, in cut lengths and coils.

ZINCGRIP PAINTGRIP

This is an Armco Zincgrip sheet with a Bonderized surface that makes it ready for immediate painting without pre-treatment of any kind. The surface not only holds but preserves the paint by retarding "aging" or paint embrittlement caused by direct contact with zinc. Same size range as Zincgrip.

The following are registered trademarks of Armco Steel Corporation: Zincgrip and Paintgrip.

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ARMCO DIVISION • Armco Steel Corporation

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Berkeley 4, California.......................2020 Milvia St.
Boston 16, Massachusetts.............927 Park Square Bldg.
Buffalo 2, New York...............704 Bank of Buffalo Bldg.
Chicago 6, Illinois....................20 North Wacker Drive
Cincinnati 26, Ohio.......................823 Delta Avenue
Cleveland 15, Ohio.. ....1516-20 B. F. Keith Bldg.
Columbus 12, Ohio.......................1820 Northwest Blvd.
Dallas 19, Texas.....................3631 Cedar Springs Rd.
Dayton 19, Ohio........................2801 Far Hills Ave.
Denver 3, Colorado.......................130 East 5th Ave.
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Greensboro, North Carolina...............1834 Pembroke Rd.
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